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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,519	06/16/2006	Kohei Kawamura	5404/155	1418
757 7590 12/02/2008 BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610				
EXAMINER				
KRYLOVA, IRINA				
ART UNIT		PAPER NUMBER		
4131				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/583,519

Applicant(s)

KAWAMURA ET AL.

Examiner

IRINA KRYLOVA

Art Unit

4131

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 03/25/08; 01/18/08; 10/12/06; 06/16/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2.

3. Claim s 1-6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 20 of copending Application No. 11/667,633. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

4. Both applications comprise the same fiber compositions. The ranges of copolymers A and B and ranges of comonomers either encompass each other or significantly overlap and overlapping ranges have been held to establish prima facie obviousness. The shrinkage property of the dyed fiber is essentially the same.

Claim 3 of the present invention recites a fiber comprising 80-97 wt% of acrylonitrile, having a relative saturation value of 0.2 or more when dyed at less than 80 degrees C. Since both applications comprise fibers having more than 80 wt% of acrylonitrile, the dye saturation value is assumed to be an inherent characteristic of the fiber. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by **Fester et al** in US 4,383,086.

3. **Fester et al** discloses a high shrinkable fiber comprising a mixture of 20-70% of a copolymer A and 30-80 % of a copolymer B, wherein:

copolymer A comprises:

- at least 80% by weight of acrylonitrile;
- 0.3-20 % by weight of other units copolymerizable with acrylonitrile, comprising acrylic esters, vinyl chloride and sulfonic acid containing monomers;

copolymer B comprises:

- 50-75 % by weight of acrylonitrile;
- 25-45 % by weight of vinyl chloride or vinylidene chloride;
- 0-5 % weight of other units copolymerizable with acrylonitrile comprising sulfonic acid-containing monomers (Abstract; col. 2, lines 48-60; col. 3, lines 16-34).

The specific example provided the following composition:

copolymer A1:

- 94.3% acrylonitrile;
- 6% acrylic ester;
- 0.7 % Na methallyl sulfonate;

copolymer B1:

- 57 % acrylonitrile;
- 40% vinylidene chloride;
- 3% Na methallyl sulfonate.

The total content of the sulfonic acid group containing monomers in the mixture of copolymer A1 and B1 falls within the range 0.1-10%.

Copolymer A1 and copolymer B1 were mixed in the ratio 70:30, drawn through spinneret and heated at 135 degrees C to give boil-off shrinkage of 39% (Table 1; Table 2).

The shrinkage percentage of the above acrylic fiber after dyeing it at a temperature less than 80 degrees C was not recited. However, since it is characterized as high

shrinkable and the provided composition is the same as claimed in the present invention, therefore, shrinkage of the fiber being 20% or more when treated with dry heat at 130 degrees C for five minutes after being dyed at less than 80 degrees C, is assumed to be an inherent characteristic of the fiber. Since the fiber composition of **Fester et al** comprises more than 80% wt of acrylonitrile, a relative saturation value of the fiber after being dyed is assumed to be an inherent characteristic as well.

"Products of identical chemical composition can not have mutually exclusive properties"

(See MPEP 2112.01).

4. Claim 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by **Cazzaro et al** in US 4,287,148.

5. **Cazzaro et al** discloses dyeable acrylic fibers comprising a blend of 12-40% by weight of copolymer A and 60-88% by weight of copolymer B, where copolymer A comprises 88-98% acrylonitrile unites, 2-12% of sulphonic monomer; copolymer B comprises 55-88% of acrylonitrile and 12-45% vinylidene chloride (col. 3, lines 25-35).

The shrinkage percentage of the fiber after dyeing it at a temperature less than 80 degrees C was not recited by **Cazzaro et al**. However, since the provided composition is the same as claimed in the present invention, therefore, shrinkage of the fiber being 20% or more when treated with dry heat at 130 degrees C for five minutes after being dyed at less than 80 degrees C, is assumed to be an inherent characteristic of the fiber.

Since the fiber composition of **Cazzaro et al** comprises more than 80% wt of acrylonitrile, a relative saturation value of the fiber after being dyed is assumed to be an inherent characteristic as well. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01).

6. Claims 3, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by **Corbishley et al** in US 3,945,793.

7. **Corbishley et al** discloses an acrylic fiber containing at least 80% by weight of acrylonitrile and having a color saturation value of at least 1 (col. 2, lines 22-31). Where a printing or continuous dyeing process is used, the temperature at which color is applied may be up to 60 degrees C (col. 4, lines 35-41). Coloration of polyacrylonitrile fiber may also be carried out by immersion of fiber into a dye bath; the temperature at which dye is applied from a dye bath, is 80 degrees C (col. 5, lines 6-22; col. 9, lines 48-63).

Though **Corbishley et al** does not specify the shrinkage percentage of the acrylonitrile fiber after dyeing it at a temperature 80 degrees C or less, however, since the provided composition is the same as claimed in the present invention, therefore, shrinkage of the fiber being 20% or more when treated with dry heat at 130 degrees C for five minutes after being dyed at less than 80 degrees C, is assumed to be an inherent characteristic of the fiber. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01).

8. Claims 3, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by **Bindler et al** in US 3,355,243.

Bindler et al discloses polyacrylonitrile fibers that can be dyed at temperatures 60-100 degrees C and having color saturation value of above 2 (col. 1, lines 15-20; col. 2, lines 61-63; col. 3, lines 4-8).

Binder et al does not specify the shrinkage percentage of the acrylonitrile fiber after dying it at a temperature 80 degrees C or less, however, since the provided composition is the same as claimed in the present invention, therefore, shrinkage of the fiber being 20% or more when treated with dry heat at 130 degrees C for five minutes after being dyed at less than 80 degrees C, is assumed to be an inherent characteristic of the fiber. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bach et al in US 4,294,884 discloses an acrylic fiber having improved dyeability comprising a blend of two copolymers of acrylonitrile. Shiomi et al in US 5,543,216 discloses a dyeable acrylic composite fiber comprising a combination of higher shrinkable fiber and lower shrinkable fiber. Sampanis et al in US 5,130,195

discloses an acrylic fiber comprising two acrylonitrile copolymers having different amount of sulfonic acid groups and thus different hydrophilic properties.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IRINA KRYLOVA whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 4131

/I. K./
Examiner, Art Unit 4131

